US Army Technical Center for Explosives Safety (USATCES), McAlester, OK 74501

Explosives Safety Bulletin

January 2012 https://www3.dac.army.mil/es/usatces/

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Heads Up!!!

By: Risk Management Div
DSN: 956-8784

The Office of Director of Army Safety (ODASAF), in conjunction with the U.S. Army Technical Center for Explosives Safety (USATCES), has identified six special interest areas for the FY12 HQDA ammunition logistics and explosives safety reviews which are scheduled to be conducted this fiscal year. These six special interest areas are in addition to the normal explosives safety program checklist used during HQDA explosives safety reviews and are as follows:

(1) Awareness and proper application of hazards of electromagnetic radiation to ordnance (HERO) requirements.
(2) Periodic review of safety deviations - Certificates of Risk Acceptance (CoRAs) and Certifications of Compelling Reason (CCRs).
(3) All explosives safety site plans submitted after 1 Oct 2011, from installations that have successfully installed Explosives Safety Siting (ESS) software, are submitted electronically using ESS, unless exempted by DACS-SF memorandum, dated 10 Mar 11, subject: Mandated Use of Explosives Safety Siting (ESS) Software.
(4) All waivers and exemptions have been replaced by a Certificate of Risk Acceptance, DA Form 7632.
(5) Installation has developed and maintains a comprehensive listing of all existing explosives facilities in accordance with DACS-SF memorandum, dated 2 Jul 10, subject: Explosives Safety Site Plans.
(6) Safety professionals with explosives safety responsibilities have completed or are scheduled to take "Introduction to Explosives Safety Management for Safety Professionals." This course is offered periodically at the U.S. Army Combat

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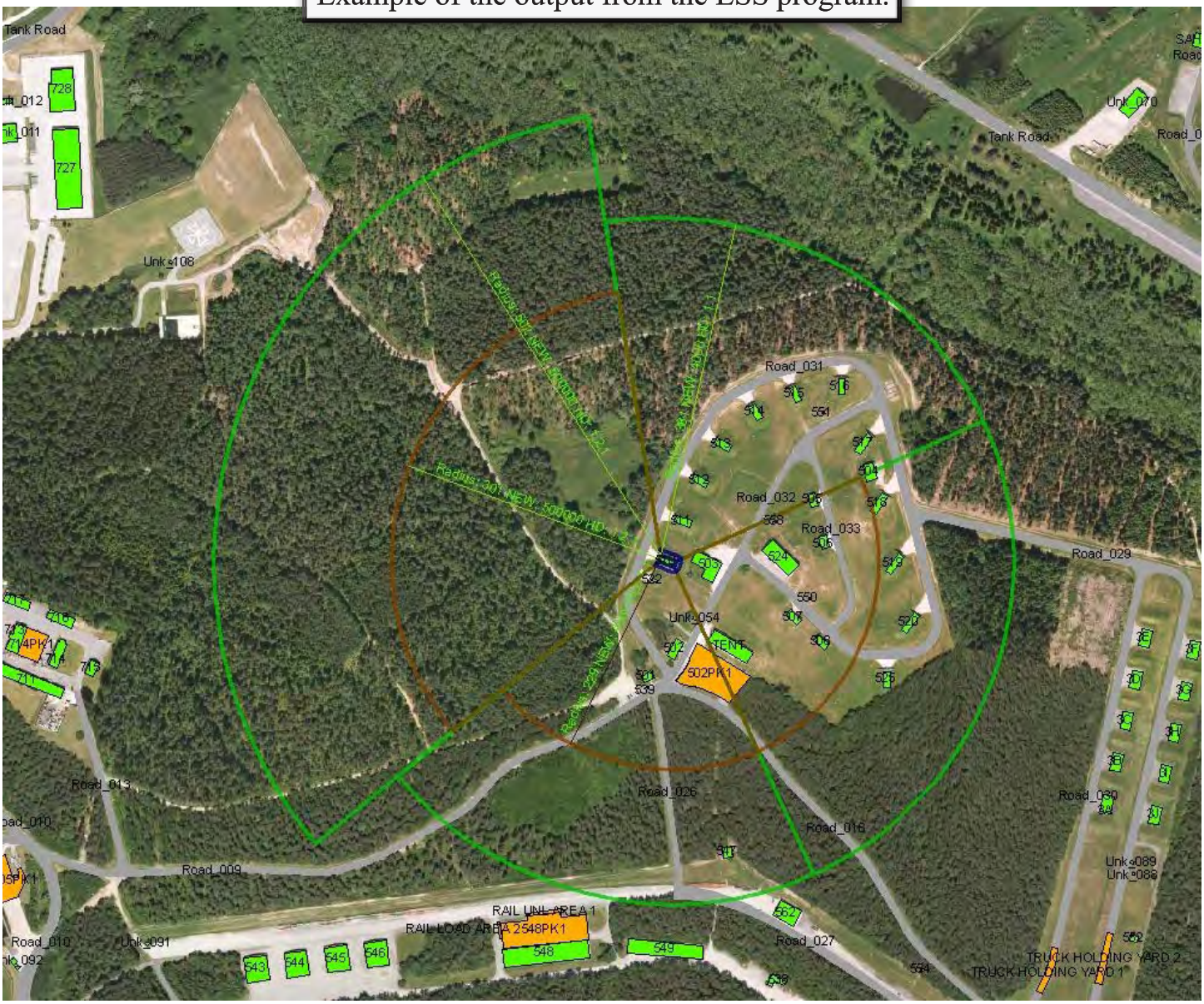
Readiness Center or is now available live on the Army Learning Management System as Ammo-107-DL Course (Intro to Explosives Safety Management for Safety Professionals). Registration for the course can be accessed via the DAC training portal (http://ammo.okstate.edu)and clicking "Online Training" link. It can also be accessed directly from the Army Training Requirements and Resources System (ATTRS) course catalogue search engine (https://www.atrrs.army.mil/atrrscc/). See page 4 for more information on the Ammo-107-DL course.

The time is right for placing additional emphasis on these areas and improving the overall Army explosives safety program posture. Astute safety professionals will not wait for a HQDA review to complete these mandatory explosives safety program management elements.

If you have any questions or need additional information on these special interest areas, contact Ammunition Logistics Review personnel at Comm (918) 420-8238/8104 or DSN 956-8238/8104.

Example of the output from the ESS program.



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Storage of Coalition and/or Multinational Ammunition and Explosives

By: Risk Management Div
DSN: 956-8784

Okay, imagine yourself as the Supervisor of an ammunition supply point (ASP) at a forward operating base (FOB) in some remote corner of the world. Imagine that a foreign allied military detachment comes to you and asks to store their ammunition for their weapons systems in your ASP. Most FOBs have only one ASP and as the alternative of not storing the ammunition in your ASP means they'll store it somewhere else on the FOB, without regard to explosives safety, you should work to grant their request. But what separation is required between foreign allied ammunition and US ammunition? There is a table in DA Pam 385-64 that talks about the required separations between DOD ammo/explosives and Non-DOD ammo/explosives, but that table was designed for ammo plants and depots that might lease an Earth Covered Magazine (ECM) or operating line to a commercial contractor like Acme Fireworks and it is not a good fit to an ASP needing to store allied/coalition ammo.

As a result of continuing field requirements, Army now has a policy addressing this issue. The policy was signed on January 3rd, 2011 and can be located at the following link: https://www.us.army.mil/suite/doc/34030959

The short answer is the coalition/allied ammunition and explosives will, in most cases, require magazine distance separation from and to US ammunition and explosives. The policy does allow storage in the same cell, in fact, the same storage structure/container, provided the hazard classification procedures of the coalition/allied partner are equivalent to the US hazard classification procedures outlined in TB 700-2, "Department of Defense Ammunition and Explosives Hazard Classification Procedures." Unless you or the representative of the foreign military detachment know if these procedures are equivalent, the policy defaults back to magazine distance separation. So, in most situations this will require the foreign ammunition and explosives to be stored in their own magazine or storage cell which would be separated by magazine distance from other magazines/storage cells.

But what if you don't have an empty magazine or storage cell? The policy makers have foreseen this possibility. In cases where storage in the same cell is absolutely necessary and hazard classification procedure equivalence is not known, storage can be authorized via the Certificate of Risk Acceptance (CoRA) risk management process. Always consider storage compatibility if you must store these items together. If the foreign military detachment cannot provide documentation on explosives weight or compatibility, touch base with Explosives Ordnance Disposal (EOD) who might be able to assist. If you can't get reliable information/assistance, then compare the item to similar US items for hazard classification determination. For purposes of CoRA documentation, reasonable assumptions on net explosives weight per item can be made. If you have absolutely no idea how much NEW could be involved, you can

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be conservative and use the gross weight as the explosives weight.

The policy also addresses separation between storage and operating locations (where ammunition operations like field returns and minor ammunition maintenance might be performed) when allied/coalition ammunition is involved. In this instance, intraline distance is required, which is what we require from our own ammunition storage to an ammunition operation.

Coalition/multinational operations are a new part of U.S. military operations and explosives safety regulations/doctrine are evolving to cover these changes. This is a situation that is tailor made for the risk management process. So, when the foreign military representative wants to store their ammunition in your ASP, there is DA level guidance on what to do. Proper, secure and controlled storage in the ASP is much better and much less risk than unauthorized storage in the life support area (LSA).

Introduction to Explosives Safety Management for Safety Professionals (Ammo-107-DL)

By: Risk Management Div
DSN: 956-8784

The Distributed Learning version of Introduction to Explosives Safety Management for Safety Professionals (AMMO-107-DL) is now available through Army Training Requirements and Resources System (ATRRS). Registration for the course can be accessed via the ATTRS course catalogue search engine (https://www.atrrs.army.mil/atrrscc/) or through the Defense Ammunition Center training portal (http://ammo.okstate.edu/) and clicking “Online Training” link. A classroom version of the course (AMMO-107) is taught during the Safety Intern Training at the Combat Readiness/Safety Center, Fort Rucker, Alabama.

All professional safety careerist will be required to complete this training as a part of Career Program 12 requirements.

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Prerequisites (available in Distributed Learning) include AMMO-45 (Introduction to Ammunition, 8 hours); AMMO-63 (Army Explosives Safety Familiarization, 12 hours); AMMO-78 (Ammunition Publications, 6 hours)

AMMO-107-DL, Introduction to Explosives Safety Management for Safety Professionals is a 32 hour course, so completion of the Explosives Safety Core Level Training Requirements will provide CP12 Careerist with 58 hours of Explosives Safety Training in your toolbox for your safety career.

'Lights, Camera...IED Simulator'

Reprinted with permission of the author, Vince Little. Originally printed in The Bayonet (www.thebayonet.com).

In an effort to stem accidents and keep troops from making their own simulator devices in roadside bomb training, the Army is producing a short safety awareness video set for release this summer.

The video will feature footage shot here (Fort Benning) Dec. 13-15, 2010 with Fort Benning Soldiers, vehicles and ammunition. U.S. Army Forces Command (FORSCOM) is heading the project, while the Soldier Requirements Division and Maneuver Battle Lab served as host organizations during shooting.

Larry Baker, U.S. FORSCOM Safety Manager for Ammunition, Explosives and Ranges, said **the goal is to promote the Army's family of approved devices and ammunition for improvised explosive device simulator training.** The scenes will reflect feedback from Soldiers and contractors in Afghanistan and Iraq. "It's more of an awareness piece and not designed as an instructional video," he said. "It's not your traditional training film. The realism is based on realistic scenarios from combat."

While setting up Improvised Explosive Devices (IED) training lanes, Soldiers sometimes engage in unsafe practices, without realizing the consequences, said Justin Strayer, a close combat systems analyst for the Soldier Requirements Division. Hazards associated with creating IED simulators are among the Army's top safety concerns. Injuries can include burns, lost fingers, hearing loss, eye and fragmentation injuries, and concussions. "They'll try to make it as realistic as possible, and it's dangerous," he said.

"Fireworks and gasoline are just two ingredients in a "witch's brew" of items available for purchase", Baker said. "They're trying to do the right things and follow orders in some cases to arrange an authentic training scenario, but you wind up with an injured Soldier," he said. "Our video is an education tool that presents an overview of what's out there for safe use. People do take shortcuts, but we'll try to eliminate that. And it's not just the Army that uses this — these are joint-service munitions available to all branches and all federal agencies."

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The three-day shoot involved the Army Armament Research Development and Engineering Center (ARDEC), Project Manager Training Device, simulator program managers, FORSCOM safety officials and Pacific Coast Systems, a major manufacturer.

Meanwhile, four Soldiers from Fort Benning's 789th Explosive Ordnance Disposal Company took part in the mounted, dismounted and vehicle situations as actors.

"I know I never want to be an actor in Hollywood after this," joked SPC Andrew Barnes. "We were doing the exact same thing over and over again so they could get the right shot. It's kind of like making a movie."

"But this film contains an important message for all Soldiers," Barnes said. "Instead of trying to make their own IED devices, there are safer alternatives."

SPC James Bridges said he hopes the video has a wide impact. "It should help stop people from getting hurt," he said. "These things are quicker and safer to set up, and the effects are a lot more realistic."

Baker said up to 3,000 copies will be part of the DVD's initial release in June 2011 across the

Soldiers from the 789th EOD Company advance as an IED simulator explodes across the street during a shoot at McKenna MOUT.

Army. It's set to include an interactive menu and be posted on several Army safety websites.

The video is the second in a series produced by the ARDEC, Munitions New Equipment Training and Media Production Branch. The Picatinny Arsenal, N.J.-based group came out with Pyrotechnic Simulator Safety in October 2009. Since then, incidents with hand grenade and hand-held artillery simulators Armywide have dropped from two or three a month to zero, Strayer said. "As simple as this is, when you reduce incidents like that, a five minute video can be priceless," he said.

BATTLE EFFECTS SIMULATORS DVD can be obtained at:

http://www.defenseimagery.mil

Below are some examples of the IED Simulators manufactured by Pacific Coast Systems (http://www.pcs-ied.com/index.html).

155/2 Artillery Shell. Polyurethane shell replicating USSR projectile.

FOX Firing Device

UVED (Under Vehicle Explosive Device)

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MSDS for Ammunition

By: Risk Management Div
DSN: 956-8784

Have you ever wondered why you never see a Material Safety Data Sheet (MSDS) for an ammunition shipment? Wouldn't you expect to, considering how dangerous ammunition is? Well, here is why you do not.

The requirement for the MSDS comes from OSHA standard 29 CFR 1910.1200, the Hazard Communication (HazCom) Standard. Often referred to as the "Right to Know Standard", this standard attempts to protect workers, shippers and emergency personnel from the hazards of toxic chemicals. It protects by informing personnel of the dangers and their countermeasures from these chemicals. It specifies the MSDS as the vehicle for providing this information. The HazCom Standard does not attempt to consider non-chemical hazards, such as radiation, for instance.

29 CFR 1910.1200b(6)(v) of the HazCom Standard gives about a dozen exceptions where an MSDS is not required. The exception that applies to the ammunition area is for manufactured items, which the standard calls articles. As defined by the 29 CFR 1910.1200c, "Article means a manufactured item other than a fluid or particle: (i) which is formed to a specific shape or design during manufacture; (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which under normal conditions of use does not release more than very small quantities, e.g., minute or trace amounts of a hazardous chemical (as determined under paragraph (d) of this section), and does not pose a physical hazard or health risk to employees.

Since the beginning of the standard, Ammunition has been considered an Article, and thus exempt from MSDS requirements. However, bulk explosives, propellants and pyrotechnics still are considered chemicals and do require an MSDS.

The latest version of AR 385-10, The Army Safety Program, is available at the following link:

https://www.us.army.mil/suite/doc/33290552

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Improper Ammunition Loading of the M2A1 Machine Gun

*****ACKNOWLEDGE*** SAFETY MESSAGE # 222 -TACOM LCMC GPA 12-006, Improper Ammunition Loading of the M2A1 Machine Gun (UNCLASSIFIED)**

********** UNCLASSIFIED // FOR OFFICIAL USE ONLY (FOUO)**********

Subject: TACOM LCMC GPA 12-006, Improper Ammunition Loading of the M2A1 Machine Gun
Originator: /C=US/O=U.S. GOVERNMENT/OU=DOD/OU=ARMY/OU=ORGANIZATIONS/L=CONUS/L=WARREN MI/OU=TACOM/OU=TACOM SAFETYOFUSE(UC)
DTG: 221548Z Nov 11
Precedence: PRIORITY
DAC: General

UNCLASSIFIED/
Subject: Ground Precautionary Action (GPA) Message, TACOM Life Cycle Management Command (TACOM LCMC) Control No. GPA 12-006, "Operational" Improper ammunition loading of the M2A1 Machine Gun, Caliber .50 w/fixed Headspace and Timing NSN 1005-01-511-1250.

"ATTENTION"
THIS MESSAGE CONTAINS INFORMATION THAT IS VITAL TO THE SAFETY OF ARMY PERSONNEL AND THE OPERATION OR MAINTENANCE OF ARMY EQUIPMENT

REFERENCES:

a. TM 9-1005-347-10, Operator's Manual for Machine Gun, Caliber .50; M2A1, W/Fixed Headspace and Timing.

b. TM 9-1005-347-23&P, Field Maintenance Manual (Including Repair Parts and Special Tools List) for Machine Gun, Caliber .50: M2A1 W/Fixed Headspace and Timing.

SYNOPSIS: M2A1 bolts are being damaged due to operators not following the proper ammunition loading procedures IAW TM 9-1005-347-10.

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1. Distribution:

a. Commanders/Directors of Army Commands (ACOM)/Army Service Component Commands (ASCC)/Direct Reporting Units (DRU), Army National Guard (ARNG), US Army Reserve (USAR) Command, US Navy (USN), US Air Force (USAF), US Marine Corps (USMC) and other Service Commanders and Responsible Offices will retransmit this message to all subordinate Commanders/Activities within 24 hours of receipt and will, within 3 working days, acknowledge receipt by e-mail to Army TACOM-LCMC ILSC_Safety of Use Mailbox II (TACOM-lcmc.ilsc_safetyofusemailboxii@mail.mil) or by telephoning DSN 786-1832, Commercial (586)282-1832. TACOM Life Cycle Management Command (TACOM LCMC), ATTN: AMSTA-LCL-MPM, 6501 E. 11 Mile Rd., Warren, MI 48397-5000.

b. This message will be available on the Safety First Web Site located on the TACOM Unique Logistics Support Applications (TULSA) portal within twenty-four hours of transmission. Access to the Safety First Web Site requires CAC Card authentication. You must first request access to the Safety First Web Site. To request access click here https://tulsa.tacom.army.mil. For assistance, email the TULSA Helpdesk at tacom-lcmc-ilsc_tulsa@mail.mil. The Safety First Web Site also has the capability to email Safety and Maintenance messages directly to your inbox. To subscribe to the mailing list, click on, E-Mail Subscriptions, on the Navigation bar.

2. Problem: Excessive wear, dents and gouging on the top of the M2A1 bolts have been reported. The cause of the damage to the top of the bolt has been confirmed and is due to operators not following the proper ammunition loading procedures IAW TM 9-1005-347-10, WP 0006 00-3, (Operation Under Usual Conditions, Single Shot Mode, Automatic Fire, Firing Machine Gun on M3 Tripod Mount and Firing Machine Gun on MK93 MOD 0, MK 93 MOD 1, M6 Pedestal and M7 Pedestal Mounts).

3. User Actions: When loading ammunition into the M2A1, operators and maintainers must follow the ammunition loading procedures in sequence IAW TM 9-1005-347-10, WP 0006 00-3. Failure to adhere to the following steps, in sequence, will result in damage to the top of the M2A1 bolt.

NOTE

Ensure bolt is forward. Ensure the correct front cartridge stop is installed (the left side, right side and Blank firing Adapter cartridge stops are different).

a. Open machine gun cover and insert the double loop end of ammunition in feedway until first cartridge is held by belt holding pawls.

CAUTION

Do not close cover when bolt is held rearward as damage may occur when bolt goes forward.

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b. Close cover of machine gun.

c. Pull retracting slide handle rearward, retracting the bolt all the way to the rear. Release the handle.

NOTE

If machine gun is set for single shot fire, the bolt will remain in the rearward position. In this event, move the retracting slide handle forward before releasing the bolt with the bolt latch release (5). If the machine gun is set for automatic fire, the retracting slide handle will go forward with the bolt when released

d. Press trigger to fire the machine gun.

4. Bolt Damage Guidance: If minor damage (such as pictured below) is seen on the bolt, armorer should stone any roughness or burrs so that the defect is smooth to the touch.

https://tulsa.tacom.army.mil/SAFETY/gpm/tacom_wn/Picture_1_-_bolt_with_minor_damage.pptx

Bolts with more extensive damage as pictured below should be coded out.

https://tulsa.tacom.army.mil/SAFETY/gpm/tacom_wn/Picture_1_-_bolt_with_extensive_damage.pptx

5. Unit Commanders:

a. Will ensure unit personnel are properly trained in the loading and unloading procedures described in TM 9-1005-347-10, WP 0006 00-3.

b. Contact your local TACOM LCMC Logistics Assistance Representative (LAR) or your State Surface Maintenance Manager upon Receipt of this message for assistance. For assistance in locating your TACOM LCMC LAR, see paragraph 8c.

c. Commanders/Directors of Army Commands (ACOM)/Army Service Component

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Commands (ASCC)/Direct Reporting Units (DRU), Army National Guard (ARNG), US Army Reserve (USAR) Command, US Navy (USN), US Air Force (USAF), US Marine Corps (USMC) and other Service Commanders and Responsible Offices will ensure users comply with TM 9-1005-347-10.

6. TACOM LCMC/PM actions: TACOM will submit an article in PS Magazine informing the operator to follow the loading procedures IAW TM 9-1005-347-10, WP 0006 00-3.

7. Supply Status: Bolt, Sub-Assembly NSN: 1005-00-614-7463 FEDLOG price: $632.00. The unit is responsible for replacement of damaged bolts and there is sufficient quantity in stock to meet requirements.

8. POCs:

a. Equipment Specialist (M2/M2A1): Wayne Waroway TACOM Warren, AMSTA-LCW-SIC, DSN 786-1339, e-mail: wayne.d.waroway.civ@mail.mil

b. Weapon System Manager (WSM): Amber Brasseur TACOM Warren, AMSTA-LCW-SIC, DSN 786-1338, e-mail: amber.j.brasseur.civ@mail.mil

c. To find your TACOM LCMC LAR, contact the TACOM LCMC Senior Command Representative (SCR) for your area.

(1) CONUS-East Region includes all Active Duty, National Guard and Reserve Units in Wisconsin, Illinois, Michigan, Indiana, Ohio, Kentucky, Tennessee, Mississippi, Alabama, Georgia, Florida, Louisiana, South Carolina, North Carolina, Virginia, West Virginia, Maryland, Delaware, Pennsylvania, New Jersey, Connecticut, Rhode Island, Massachusetts, New York, New Hampshire, Vermont, Maine and FORSCOM. CONUS-East SCR can be reached at DSN 312-236-6921, Commercial 910-396-6921.

(2) CONUS-West Region includes all Active Duty, National Guard and Reserve Units in North Dakota, South Dakota, Minnesota, Nebraska, Iowa, Missouri, Kansas, Oklahoma, Arkansas, Texas, Colorado, Montana, and Wyoming. CONUS-West SCR can be reached at DSN 312-737-0263, Commercial 254-287-0263.

(3) Pacific Region includes all Active Duty, National Guard and Reserve Units in Washington, Oregon, Idaho, Nevada, Utah, Arizona, Alaska, Hawaii, California, New Mexico and Guam. Pacific SCR can be reached at DSN 312-357-2991, Commercial 253-967-2991.

(4) Europe Region includes all Active Duty, National Guard and Reserve Units in Great Britain, Germany, Belgium, Luxemburg, Italy, Bosnia, Kosovo, and Macedonia. Europe SCR can be reached at DSN 314-483-4090, Commercial 011-49-631-411-4090, in Germany, 0631-

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411-4090.

(5) Far East Region includes all Active Duty, National Guard and Reserve Units in Korea, Okinawa, Kwajalein, and Japan. Far East SCR can be reached at DSN 315-768-7943, commercial 011-82-53-470-7943.

(6) SWA - Kuwait includes all Active Duty, National Guard and Reserve Units in Kuwait. SWA - Kuwait SCR at Camp Arifjan can be reached at DSN 318-340-7460.

(7) SWA OEF Region (Afghanistan) SWA, Region OEF includes all Active Duty, National Guard and Reserve Units in Afghanistan. SWA Region 401st AFSB OEF SCR can be reached at DSN 312-864-5174. Commercial 309-644-5174.

(8) Integrated Readiness Maintenance Team (IRMT) Region (Kuwait) SWA Region includes all Active Duty, National Guard and Reserve Units in Kuwait, Qatar, Saudi Arabia and UAE. IRMT Region IRMT Team Leader can be reached at DSN 318-430-7460, Commercial 011-965-389-7460.

(9) FOR US Special Operations Command contact, Special Operations Forces Support Activity (SOFSA), Mr. Mike Paul at DSN: 745-4302, Commercial 859-566-5632 or Ms. Dana Shimfessel at 859-566-5603.

Correction v. Closure

BY: Chemical/MEC Safety Div
DSN: 956-8155

Here's the BLUF: **correcting** a historic explosives safety finding of a former Department of Defense Explosives Safety Board (DDESB) survey does **NOT** equate to formal **closure** of the survey file. The appropriate and only accepted process is to "answer the mail". DDESB issued the historic finding to a specific installation, therefore it is the installation's responsibility to correct / verify correction of the finding(s) and respond, through their chain of command, to the Office of the Director of Army Safety (ODASAF) by memorandum. This memorandum is to be addressed to the US Army Technical Center for Explosives Safety (USATCES), who ODASAF has designated as the action office, to conduct "closure" and coordination with DDESB concerning the historic findings.

As part of the transition of the DDESB from cyclic surveys of all military installations to the current process Explosives Safety Management Review Program (ESMP) in 2009, follow-ups with installations that had been identified with findings ceased being conducted by the DDESB and became the mission of the Service Components. In the case of the Army, the Logistics Review and Technical Assistance Office (LRTAO), part of the Defence Ammunition Center (DAC) team, has assumed the mission to review explosives safety programs, to include verification of any open findings from the former DDESB surveys.

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During the FY 2009 DDESB ESMP review of the Army's explosives safety management program, it was noted that the Army still had several installations (115 total) that had never **officially** closed-out explosives safety discrepancies that were identified by DDESB during the FY 2004-FY 2007 timeframe. As a result of this finding against the Army program, ODASAF issued a tasker in FY 2010 for all affected installations to close the "open" findings.

Since the issuance of the tasker by ODASAF, several, but not all installations have effectively and officially closed their respective DDESB Survey files. Suffice it to say that many of the findings formerly identified by the DDESB have been corrected (or in some cases, corrected years ago) but have not been documented and reported through the chain of command. Due to command and personnel changes some of the issues may have fallen off the radar screen. Regardless of historic or current circumstances, only the affected installation has first hand and absolute knowledge of its explosives safety posture and the status of corrections or corrective action plans regarding these findings. Email correspondence indicating corrections of findings only serve to informally acknowledge progress and do not constitute evidence of formal closure.

Solution: If you have an open survey finding, correct it. Then report correcting the finding (by memorandum) through your higher command to USATCES. If successfully endorsed at USATCES, then formal closure will be identified, by formal memorandum, to both the DDESB and to the installation's higher headquarters. Future visits by the LRTAO and DDESB will verify the accuracy and success of its completion.

Example of the Army Tasker

	Original Department of the Army Tasker		
Subject:	**DoD Explosives Safety Board Installation/Activity Survey Findings Requiring Closure**		
Control ID:	**100710291**	**External ID:**	
Army Suspense:	8/31/2010	**External Suspense:**	
Interim Date:		**Received Date:**	7/2/2010
Original Doc Date:			
Document Originator and Address:		**Forwarder or Congressional Office and Address:**	
James Patton			
Original Tasking Office:		DACS-SF	
Remarks: PATTOJ1 - 7/2/2010 09:45 During FY09 evaluation of the Army explosives safety management program by the Department of Defense Explosives Safety Board (DDESB), DDESB cited Army for failure to follow-up on closure of findings from previous DDESB installation surveys. Army is committed to addressing all findings from the DDESB evaluation. The attached lists installation/activity surveys conducted by DDESB with findings that remain open, according to the US Army Technical Center for Explosives		.	

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Plan Before You Go - Lessons Learned from Operation Clean Sweep

By: Risk Management Div
DSN: 956-8784

Phase One of Operation Clean Sweep was conducted in Afghanistan from 24 July to 30 September 2011. Seven personnel from U. S. Army Technical Center for Explosives Safety (USATCES) were sent to augment two existing USATCES personnel already in Afghanistan. The focus of Clean Sweep was to identify ammunition storage areas, assess hazards of stored ammunition, recommend risk mitigation measures and provide commanders with documentation of the existing risk for their acceptance. There were 119 sites visited and 115 new Potential Explosion Sites (PES's) identified adding to the previous known 93 for a total of 208 PES's. Certificate of Risk Acceptance (CoRA's) were prepared where needed and the documents left with Commanders to staff for concurrence and approval.

In addition to identifying additional PES, the Clean Sweep team aided Commanders in utilizing the Composite Risk Management (CRM) process to mitigate the many risks associated with storage of explosives.

One of the recurrent issues the teams encountered were the number of Commanders unaware of the large amount of explosives storage so close to where their soldiers were eating, sleeping, being cared for at troop clinics, or working out at the gym. Another recurring issue was that many soldiers were not aware that they were at risk from the explosives stored so close to places they inhabited. In many cases, entire COPs (Combat Outpost) were at extremely high risk to personnel, supplies, equipment and facilities in the event of an un-planned explosion of their own ammunition.

Another common issue was artillery and mortar section AHA's (Ammunition Holding Area) located in or very near inhabited areas and the support facilities. Soldiers were reluctant to move the AHA farther away. The ready ammunition placed near the guns to support immediate use often exceeded the quantity realistically needed for immediate use. Ammunition and explosives (A/E); by design causes injury or death to personnel, and damage or destruction to facilities and equipment. Yes, even our A/E can injure or kill our soldiers and destroy our equipment when improperly stored and handled. We accept a certain amount of risk when we store and handle A/E and sometimes the best we can do is mitigate risk as much as possible. The best method to mitigate risk is to provide as much distance as possible between the A/E and the exposed site or persons. The farther away the A/E is from habitations, motor pools, DFACS, etc., the safer the soldiers are. Unfortunately in a combat theater or during contingency operations, space may be at a premium and large tracts of land may not be available to allow the required distances. In these situations consider the use of well placed barricades to provide protection from low angle high speed fragments and prevent propagation of nearby ammunition in the event of incoming fire or an accidental explosion.

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The take away here is to execute proper planning before you execute your mission and when in doubt, contact the Explosives Safety experts at USATCES or in theater for assistance.. If you know you are deploying and you know you will need to store your operational load of ammunition, the safest place is the properly sited Ammunition Supply Point (ASP), Ammunition Holding Area (AHA), or Ammunition Transfer and Holding Point (ATHP). If you are to set up a new Contingency Operating Base (COB), Forward Operating Base (FOB) or Combat Outpost (COP) look at the available real estate and take as much as you can and separate living and unrelated working places as far as possible from ammunition. Apply Composite Risk Management to identify, analyze, and apply risk mitigation measures.

The Army has trained personnel to assist the Commander in his/her Explosives Safety planning. Quality Assurance Specialist (Ammunition Surveillance) (QASAS), Logistics Assistance Representative (LAR), and Explosives Safety personnel are available to provide guidance. The US Army Technical Center for Explosive Safety (USATCES) (https://www3.dac.army.mil/es/usatces/) is also available to help the Commander plan the Explosive Safety piece of his/her mission.

Explosives Safety Test Program Update

By: Risk Management Div
DSN: 956-8784

The US Army Technical Center for Explosives Safety operates an Explosives Safety Test Program. The program is required by the AR 385-10, Army Safety Program, and was established to:

- **Validate, Establish or Modify Explosives Safety Requirements**
- **Develop New Explosives Safety Tools for the Army**
- **Develop New and Innovative Force Protection Techniques**
- **Decrease the Composite Risk of Storing, Handling, Transporting and Using Ammunition and Explosives**
- **Improve Combat Readiness**

Some of the Explosives Safety Test Program projects have been featured within past editions of this Bulletin: the 2.75” rocket motor into Hesco barricades testing, the elimination of the 2 degree rule, and even stories about blowing up ISO containers in the Australian desert or

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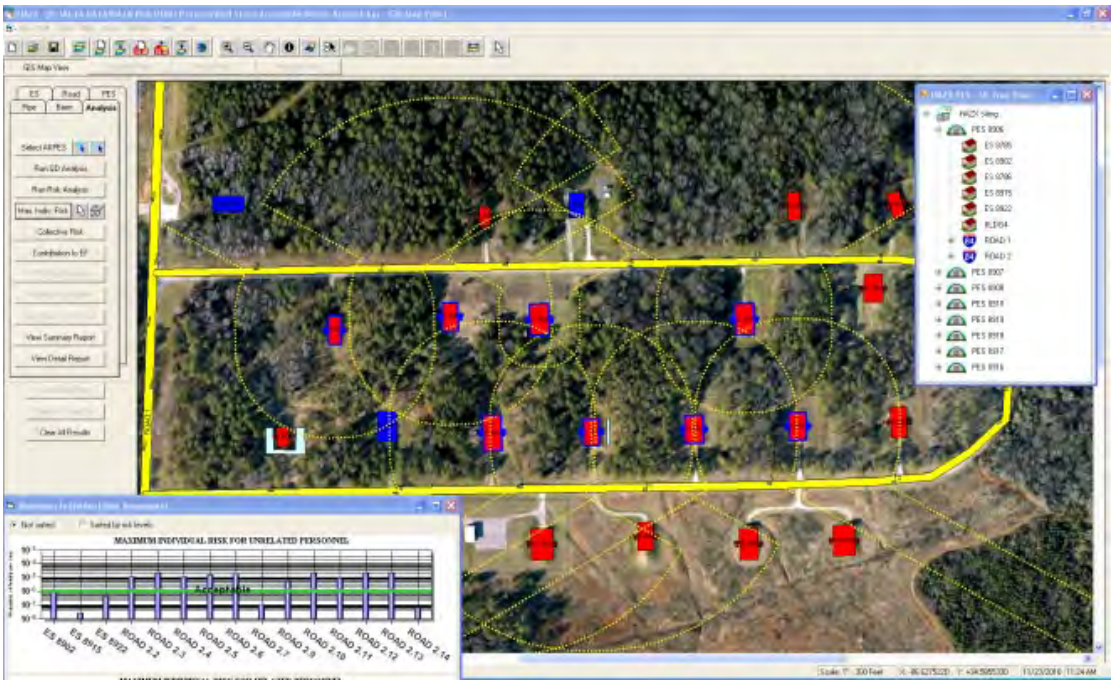
concrete buildings in the deserts in China Lake, California. Recently the explosives safety test program has been focused on developing an improved risk based explosives safety siting program. It's called HAZX. The HAZX Explosion Assessment Tool will implement the logic and algorithms in the Department of Defense Explosives Safety Board (DDESB) Technical Paper number 14 or TP-14. Quantity-Distance has been the primary method for the safe siting of facilities for nearly 70 years. HAZX consists of two modules: 1) HAZX Hazard Tool (HHT) and 2) HAZX Risk Tool (HRT). NASA and the Air Force are funding the HHT while the Army Explosives Safety Test Program focuses on developing the HRT (the risk tool). The HHT performs detailed physics-based air blast and fragmentation hazard and consequence analyses given an explosion event occurs (100% probability). The HRT performs a quantitative risk assessment considering the probability of an explosions event (seldom, unlikely, etc) and the consequences on multiple receptors (occupied buildings, public roads, etc.). An example of this output is shown below for the storage of hazardous materials at a US explosives storage installation. Both the HHT and the HRT are linked to a graphical user interface with an embedded geographical information system (GUI/GIS) that accepts all user inputs, performs the required spatial hazard and risk analyses and displays numerous risk results to aid the user in interpretation. The Army goal with HAZX is to provide an automated risk management tool that is relatively simple to use and also provides results that aid in obtaining a DDESB approvable explosives safety site plan. Yes, simple to use, relatively.



Now it's time for your input. Who better than you, the members of the explosives safety community, to identify potential test or research projects? Remember, the goals from above. What to provide: 1) A project title, 2) Your office with contact information, 3) The objective, 4) Any current policy/requirements, 5) How the deliverable/product will be used and by whom, 6) Specific benefits this proposal will achieve, 7) Approach to be taken, 8) Any additional information. Provide the information to mcal.dac.sjmac-es@conus.army.mil.

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DOT-SP 15448

By: Risk Management Div
DSN: 956-8784

The US Department of Transportation (DOT) recently issued DOT-SP 15448. It is dated December 22, 2011 and has an Expiration Date of November 30, 2013. It is for Interim Hazard Classification (IHC) and the Grantee is only the US Department of Defense (DOD). This Special Permit (SP) is effective now. IHCs previously issued will not reference the SP, but all future IHCs will. Per the SP, "A current copy of this special permit must be carried aboard each cargo vessel, aircraft, or motor vehicle used to transport packages covered by this special permit." A copy of the SP can be obtained at URL: http://www.phmsa.dot.gov/staticfiles/PHMSA/SPA_App/OfferDocuments/SP15448_2011090083.pdf

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